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## HEALTH AND VITAL STATISTICS.

Forty-eighth Report to the Legislature of Massachusetts Relating to the Registry and Return of Births, Marriages, and Deaths for the year ending Dec. 31, 1889, together with Returns of Libels for Divorce and the Returns of Deaths Investigated by the Medical Examiners. Editorial remarks by Samuel W. Abbott, M.D. Boston. 1890.

The changes in the marriage, birth, and death rates since 1850 are indicated in the following table:—

Year.	Marriages per 1000.	Births per 1000.	Deaths per 1000.
1851-55	11.7	28.8	18.7
1856-60	9.8	29.5	17.9
1861-65	4.3	25.5	20.7
1866 - 70	10.5	26.1	18.2
1871-75	9.9	27.6	20.8
1876-80	8.0	24.8	19.2
1881-85	9.3	25.1	19.8
1886	9.0	25.4	18.6
1887	9.5	25.8	19.8
1888	9.3	25.9	19.9
1889	9.4	26.2	19.2

This indicates that the excess of birth rate over death rate is gradually diminishing, although the excess is somewhat greater since 1885 than in the half-decade immediately preceding. A very complete table is presented on page 240 of the Report of similar rates for seventeen foreign countries, from which it appears that in the period 1861–80 Massachusetts had the lowest birth rate; that its death rate was the lowest, save Norway and Sweden; while its marriage rate was exceptionally high, that of Hungary alone exceeding it. The same comparative characteristics are in the main true for the years 1887 and 1888. The natural rate of increase of Massachusetts is therefore very low as compared with European countries. The birth rate of Massachusetts has been very gradually increasing since 1879; and for the first time since 1875 has it passed above 26 in the 1000. An interesting analysis is made showing that the birth rate is by far the largest in cities having over 10,000 inhabitants, where it is from 27 to

30 per 1000, while in the 96 towns with an individual population of less than 1000 the rate was less than 16. There was but little change in 1889 in the ratio of males to females. The excess of children born of foreign parents over those born of native parentage was greater than in any year since the beginning of registration. The number of plural births was considerably greater than in any previous year; while the number of illegitimates was less than in the immediately preceding year, although 1.8 per 1000 of births greater than the average of twenty years, 1870–89.

The average age at marriage of all bridegrooms was 29.1 years, and of men marrying for the first time, 26.9 years. The ages for women were 25.8 and 24.5 respectively. The increase in the age of brides is more marked than that of bridegrooms.

An analysis is made of the relation of the death rate to density of population, which shows that there was a difference of 2.7 per 1000 in 1889 in favor of the rural counties. Compared with the number of those *living* at different periods the death rates for the same age periods were as follows:—

Twenty-one persons are reported to have lived 100 years or more, all of whom were white; and 15 were foreign born. The public health on the whole was above the average. But little change in the causes of death is noted. The total number of violent deaths is not increasing, while suicide claims a larger number in this class. The death rate from pulmonary consumption has decreased from 34.3 per 10,000 in 1870 to 27.7 in 1889; from dropsy, from 17.9 to 3.8. On the other hand, there has been an increase in the rate from brain disease from 14.35 to nearly 20; from cancer, from 3.5 to 6.1; from kidney disease, from 10.5 to 30.1; from heart disease, from 6.60 to 15.08. As a critic notes, "a great part of these changes come from diagnosis and improved registration; but still the figures are, to an extent, significant both of the change in the character of our population and in the habits of living."

Statistics of divorce are included, of which an abstract will be given hereafter.

Twelfth Annual Report of the State Board of Health of Rhode Island for the Year 1889, and including the Report upon the Registration of Births, Marriages, and Deaths in 1888. Providence. 1890.

This is one of the best state registration reports in the United States, as the system of registration is thorough and complete. report might be made more valuable by the addition of a summary table, showing in one table the birth, death, and marriage rate per 1000 for a series of years. The death rate since 1860 is given satisfactorily on page 121, annually and with averages for fiveyear periods; the marriage rate is given on page 101 with no five-year averages included; while the birth rate on page 78 is calculated as "of population one birth in every;" and the return does not go back of 1869. We have none too many reliable bureaus of vital statistics, and those that we have should take pains to give us in every issue all the wealth they have. While there are advantages in calculating the birth rate as done in this report, for purposes of comparison much time will be saved to the student of such phenomena by furnishing the other. If the report were not generally so good and complete, this suggestion would not be prompted, as vital statistics of any sort are by no means abundant in this country.

There is little change in the birth rate of Rhode Island. In 1869 there was one birth to every 41.4 of population; in 1888, one to every 41.1. Between 1870 and 1878 there was a gain, but since the latter date it has fluctuated around 41. Several tables and analyses show that for Rhode Island at least the season of the year does not have any considerable influence in the causation of birth. There has been a constant increase in the number of children of foreign parentage. In the five years 1858-62, the percentage of births of American parentage was 48.50; in 1888 it was but 38.62. It is shown that there are more foreign mothers married to American fathers than American-born mothers intermarrying with fathers of foreign parentage. It is somewhat surprising to note that the number of mothers who have ten or more children, though small, has, nevertheless, increased since 1883. There is no table of illegitimate births for a series of years.

The marriage rate increased but little in the period 1883-88. There was an increase of about one year in the average age of the males who were married during the ten years 1879-88 over the average

age of the males married in the previous decade; while the average age of brides increased about one and one-half years.

The death rate, as reported, is increasing. For different periods it is as follows:—

			Pe	r 1000.					Per 1000.			
1860-1864,				16.5	1885,					17.7		
1865-1869,				16.5	1886,					18.8		
1870-1874,				17.2	1887,					19.9		
1875-1879,				16.6	1888,				. 19.9			
1880-1884,				18.0								

There is an interesting table showing the average age of all decedents. This, it will be noticed, has increased.

		A	era	ge Age.			Αv	era	ge Age.
1860-1864,				29.71	1875-1879,				31.29
1865-1869,				31.58	1880-1884,				33.24
1870-1874,				30.30	1885-1888,				33.75

The average age of females is from two to four years greater than that of males in the several years. This report has separate calculations of the vital statistics of colored persons.

Twenty-second Annual Report of Births, Marriages, and Deaths in Michigan for the Year ending 1888. Lansing. 1890. Pp. viii, 260.

A great defect in the basis of this report is the incomplete registration of births, marriages, and deaths, and the necessity for correcting the first returns by such additions as may be afterwards obtained. For example, the number of births in 1885, as originally returned, were 42,119; this estimate has since been increased by corrections to 58.026. It appears that from 70 to 80 per cent of what is estimated as the true number of births is returned. The same degree of discrepancy exists in other years, and in the returns of marriages and deaths. In spite of this fundamental uncertainty, which the Secretary of State frankly states, various tables and elaborate calculations are made which do credit to the spirit and will of the office, even if certain data cannot be dealt with.

The birth rate for 1888 is calculated at 26.5 per 1000. As in Massachusetts, the largest proportion of births took place in the last six months of the year. The number of children born of native-born parents was 44.01 per cent of the whole number. The number of illegitimate births increased in the period 1885–88, which is attri-

buted, however, to a more complete registration. According to the returns, 12.07 in every 1000 births in 1888 were illegitimate.

The marriage rate was 9.3 marriages to 1000 of the population, which probably indicates a fair degree of completeness of registration. The average age of the bridegrooms was 29.20 and of the brides 24.43. This is about one year increase on the average age for the previous ten years. The number of deaths exceeded that of any other year, but this did not signify "an unsatisfactory state of public health but a more perfect registration in some parts of the state, and more especially in Detroit." The author of the report admits that, on account of the imperfections in the registration, it is impossible to form a correct idea of the death rate of the state. There are some other suggestive statistics showing the comparative healthfulness of different pursuits.

Fourth Annual Report of the State Board of Health of Ohio for the Year ending October 31, 1889. Columbus. 1889. Pp. 350.

There is but little comprehensive collection of vital statistics in Ohio. It is stated that through the local boards of health a system of weekly reports of preventable diseases is being completed, and it is hoped that by another year comparatively accurate statistics of the prevalence of such diseases among urban populations may be furnished. The weekly reports of correspondents of the more fatal diseases of childhood include the practice of about two per cent of the physicians of the entire state. The monthly health bulletins are reprinted; and a considerable amount of meteorological statistics is appended. From the summary of the mortality statistics it is computed that in the towns reporting, representing a population of 1,197,840, the death rate was 14.16 per 1000.

Fourth Annual Report of the State Board of Health and Vital Statistics of Pennsylvania. Harrisburgh. 1889. Pp. 1200.

The statistical parts of this report embrace statements of Boards of Health of Scranton, Philadelphia, and Erie. There are marriage statistics and meteorological tables for the whole state. Pennsylvania has but lately taken up the work of registration. At present only registration of marriages and physicians is provided for by law. The return of marriages, however, is so incomplete that, as the report says, "nothing more than a few partial deductions can be made from it." No state record is yet made of births and deaths.

Eleventh Biennial Report of the State Board of Health of California for the two years ending June 30, 1890. Sacramento. 1890. Pp. 284.

The registration law of California is very imperfect. Births are not returned or recorded except in a very few instances. It is calculated that returns of mortality are received for nearly two-thirds of the state, and upon that basis the death rate is estimated at about 15 per 1000. Statistics of deaths as far as reported are tabulated, and illustrate the distribution of disease and its character. There is an interesting statistical paper on *Leprosy*, by the President of the Board of Health.

Fifth Annual Report of the State Board of Health of Maine for 1889. Augusta. 1890. Pp. xvi, 304.

The Secretary deplores the fact that any statistics that can be presented for Maine in regard to the health of the state are of very slight value. The suggestion is therefore made that the legislature enact a law for the registration of vital statistics.

The Secretary of the North Carolina Board of Health, in the Bulletin for February, states that the board is still unsuccessful in gathering statistics. In their last report all that they were able to report was the number of deaths, with causes, in only ten or twelve towns, and even in these towns there were only a few from which the reports were received every month during the two years. A continued attempt will be made by appealing to the mayors.

Medical Education, Medical Colleges, and the Regulation and Practice of Medicine in the United States and Canada. 1765–1891. By John H. Rauch, M.D., Secretary Illinois State Board of Health. Springfield. 1891. Pp. 222.

This is the Seventh Report of Medical Education made by the Illinois Board of Health, the first appearing in 1880. This issue also includes a valuable summary in regard to medical education in foreign countries. The work is statistical in its character, and annually grows in completeness and accuracy. There are now 135 medical colleges in the United States and 13 in Canada. An object of the report is to indicate the development of the practice of requiring education qualifications for matriculation. The statistics show a marked increase in the standard. Of 1183 graduates from various medical colleges of the United States who have been examined by the state boards of Alabama, Minnesota, New Jersey, North Carolina, South Carolina,

and Virginia, 285, or 24 per cent, have been rejected. The total number of graduates and the percentages of graduates to matriculates, from 1880 to 1890, was as follows:—

Year.	Number of Graduates.	Percentage to Matriculate
1881	3,985	32.7
1882	4,571	35.8
1883	4,215	33.0
1884	4,091	32.8
1885	3,824	33.2
1886	4,043	33.8
1887	3,835	30.6
1888	4,142	30.3
1889	4,543	31.0
1890	4,853	30.1

A Manual of Public Health. By H. Wynter Blyth. London. 1890. Pp. 23, 653.

The first section of this work, pp. 1-44, deals with vital statistics. Its scope is indicated by the following topics: method of calculating population between the census periods by logarithms; calculation of birth and death rates; age distribution; mean age at death; mean duration of life; probable duration of life; construction of life tables; aids to calculations, such as tables, Fuller's spiral rule, and the arithmometer. It is exceedingly practical in its treatment.

DAVIS R. DEWEY.

The Minister of Commerce and Industry of France has recently asked of the Conseil Supérieur de Statistique advice upon the compilation of tables of morbidity for different professions. At the same time the Commission Supérieur des Sociétés de Secours Mutuels, feeling the need for these tables, instituted an inquiry into the best means of obtaining them. Commissioned to make a report on this subject, M. Jacques Bertillon has made a special study of the principal tables of morbidity now existing, and has just given the results of this study in a recent article in the November number of the Revue d'Hygiene.

M. Bertillon first states that the statistics of morbidity give most varying results, due to the differences in ideas as to what constitutes a malady. Some do not count mild diseases of a few days' duration, while others omit chronic maladies, so-called.

The only statistics which are comparable are the military tables, for here the definition of sickness for a soldier (incapacity for service) must necessarily be the same in all countries.

According to Bertillon's tables there are in all the armies of Europe each day from 40 to 50 patients per 1000 men. Each soldier has, on an average, 16 or 17 days in the year when he is incapable of doing work. In spite of the difference in rules there is a remarkable agreement between the armies of the different countries, because here the conditions remain invariably the same when the term sickness is given. In spite of the difficulty of arriving at any general conclusions upon this subject, M. Bertillon has been able to make the two following points:—

1st. That morbidity and the death rate are less in the country than in the small cities, and less in the latter than in the large cities.

2nd. That adult women are more liable to sickness than men.

This last conclusion results clearly from observations made among the Lyonnaise work people, in a community where the women are very numerous; and also in Italian communities. He sums it up by saying that, up to the age of forty-five or thereabouts, the number of sick women is equal to one and a half times that of the sick men. Above this age the difference diminishes little by little.

G. N. C.

## STATISTICAL YEAR-BOOK OF URUGUAY.

Anuario Estadístico de la República Oriental del Uruguay 1889. Montevideo. 1890. Pp. lxxvii, 727.

This is a yearly publication containing valuable information. It is divided into fourteen chapters, with an introductory note addressed to the Secretary of the Treasury, and an appendix on the immigration laws. The subjects treated in these fourteen chapters are: 1, Territory, historical and geographical sketches, climatology, and meteorology; 2, Population, immigration, birth, and mortality, accompanied by statistical tables; 3, Foreign trade; 4, Home trade; 5, Navigation; 6, Treasury; 7, Public wealth; 8, Stock exchange, prices of staple products, banks, and insurance companies; 9, Public education; 10, Public charities, hospitals, and asylums; 11, Justice, prisons, and police; 12, Railways; 13, Post-office, telegraph, and telephone; 14, Legislation, administration, and other data.